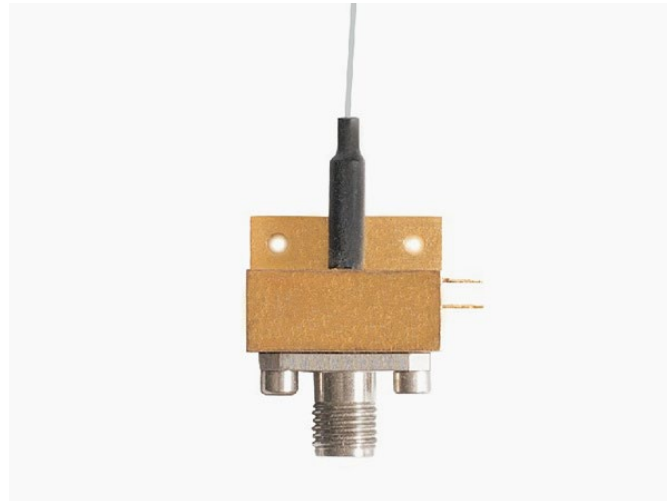


## 18GHz Microwave Photonics Receiver



### Description:

LD-PD manufactures a wide range of component photoreceivers with wide bandwidths up to 40 GHz. The MPR0030 Microwave Photonics Receiver extends link response to greater than 30 GHz via direct optical-to-analog RF conversion for signal remoting, communications, radar and information processing applications.

The unit consists of a high speed InGaAs PIN photodiode coupled to the RF output connector. It includes internal bias decoupling and can operate over a wide range of supply voltages (+3 to +15V). The detector response covers 1300 to 1600 nm. It is pigtailed with 900 $\mu$ m jacketed, single mode (ITU-T G.652.D compliant) fiber and can be terminated with a variety of optical connector options. The entire unit is contained in a sealed housing and weighs less than 25 grams.

### Features:

- Greater than 40GHz RF bandwidth
- DC Coupled
- Compact lightweight design
- High responsivity
- Positive supply voltage
- 50 $\Omega$  output impedance

### Application:

- Signal remoting
- Communications
- Radar and information processing

**Main Characteristics:**

Parameters	Symbol	Test Conditions	Specifications	Units
Responsivity	Re	VR=5V, $\lambda=1.55\mu\text{m}$ , Pin=1mW	$\geq 0.8$	A/W
3dB bandwidth	f3dB	VR=5V, $\lambda=1.55\mu\text{m}$ , Pin=1mW, RFin=-10dB	DC~18	GHz
Dark Current	ID	VR=5V, Pin=0mW	$\leq 20$	nA
Saturated input optical power	PS	VR=5V, $\lambda=1.55\mu\text{m}$ , fc=4 GHz, RFin=-10dB	$\geq 10$	mW

**Absolute maximum rating:**

Parameters		Values	Units
Storage temperature range	TSTG	-45~+85	°C
Operating temperature range2	TC	-40~+70	°C
Bias voltage	VR	$\leq 9$	V
Input power1	Pin (VR=5V)	$\leq 20$	mW
Welding Temperature	Tsolder	260 (10s)	°C
Electrostatic discharge sensitivity	ESD	$\geq 250$	V

**Recommended Operation Conditions:**

Parameters	Symbol	Values	Units
Bias voltage	VR	3~5	V
Input Optical power	Pin	1~8	mW

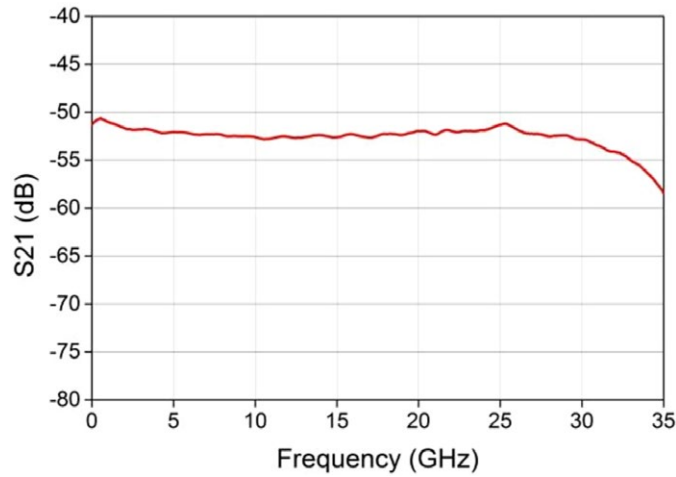
**Mechanical Characteristics:**

RF Connector	3.5 mm (SMA) female
Fiber Pigtail	G.652.D, single mode 900um buffer, 1 m typ <sup>3</sup>
Fiber Connector	FC/APC4
Bias Connectors	0.018" dia. Kovar pins with Sn/Pb coating
Max Weight (Grams)	25

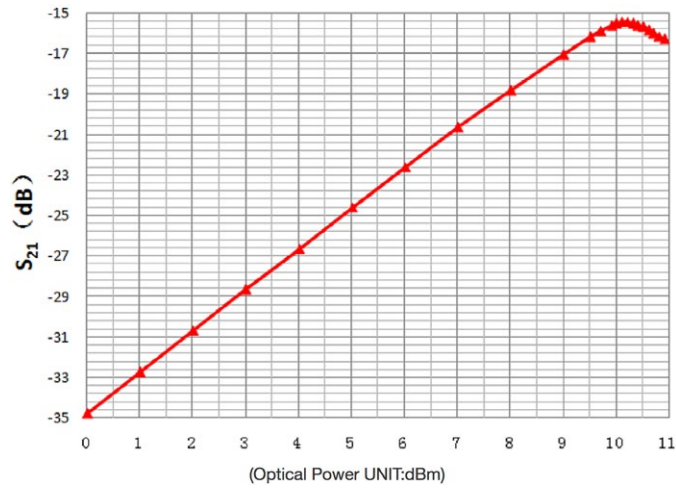
Note:

1. Exceeding maximum optical input power may damage the device.
2. Military temperature range available. Consult factory.
3. Other fiber options available. Consult factory.
4. Other connector options available. Consult factory.

**Typical Link Response:**



**Input Saturation optical power curve:**



**Mechanical Outline(Unit in mm):**

